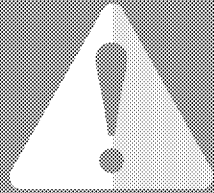


## COMMUNITY PREPAREDNESS & INFRASTRUCTURE

# VISION



Sonoma County residents, communities, public and non-governmental entities are prepared to adapt and recover in a coordinated response when disaster strikes. Effective warning programs and systems provide emergency notifications to the whole community. Sonoma County ensures the safety and security of critical infrastructure, the continuity of financial and other information technology systems and ability to activate situational awareness programs and systems to support decision-making through disaster conditions.



ADAPT



Warning System Testing  
September 10th & 12th

Allocated **\$500,000** to enhance the  
County's vegetation management program

Approved **\$1.7 million**  
for improving information  
technology resiliency



RECOVER

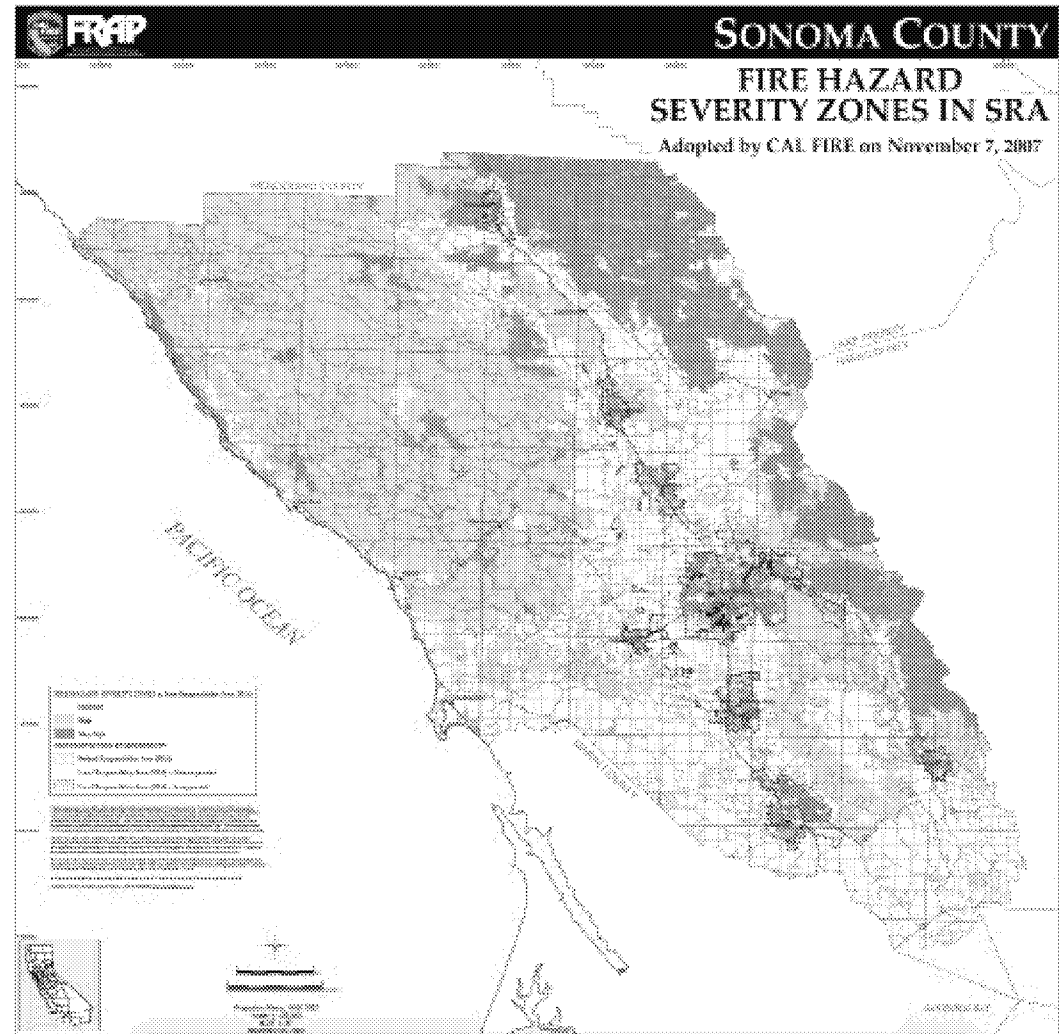
Provided **Chipper Service**  
prioritized for burn areas

## ▲ BACKGROUND

The Fire Hazard Severity Zone map (right) identifies very high fire hazard areas, and also breaks down responsibility areas. The designation of the severity zones is based on methods which assessed vegetation, topography, fire history, weather patterns and factors such as the impact of flames, heat, and flying embers. The majority of land in Sonoma County is located in State Responsibility Areas, where CalFire has the responsibility to provide fire protection. CalFire's Fire Prevention Program includes wildland pre-fire engineering, vegetation management, fire planning, education and law enforcement.

The County frequently conducts response and recovery operations for weather and flooding events that endanger local

**Fire Hazard Severity Zones**



## BACKGROUND

infrastructure, such as public utilities and transportation networks. County emergency personnel manage these events from the Sonoma County Emergency Operations Center (EOC). The EOC provides the communications infrastructure to coordinate response and recovery operations, including public information and warning. Since 2005, the County has activated the EOC for ten events.

During past emergency response activities, the County's technology infrastructure was able to support normal County business operations and systems were able to handle the temporary growth in data volume and demand.

The Board of Supervisors allocated over \$14 million to repaving projects through the 2019 construction season and Sonoma County Transportation & Public Works (TPW) was making progress on the Sonoma County Long Term Road Plan. Due to the federally declared winter storm disasters in January and February 2017, resources were re-directed to focus on repairing infrastructure that was damaged or destroyed.

The County partnered with CalFire on a pilot project to perform defensible space inspections in selected high fire risk areas.

The County did not have a comprehensive animal emergency response plan and Animal Services was assigned to Health Services' Department Operations Center.

“ I grew up in the Midwest and we had a test siren that went off at noon every day. They're loud — they wake you up. ”  
— COMMUNITY MEMBER

## BACKGROUND

**Impact of Fires on Emergency Response Infrastructure.** The 2017 wildfires spread rapidly and destroyed essential communications infrastructure. Sonoma County EOC managers struggled to maintain accurate situational awareness. The need for reliable communications systems became more urgent as the fires advanced through heavily populated areas. With 77 cell sites destroyed or damaged and other communications systems not operating, the 9-1-1 system quickly became overwhelmed. It was challenging to alert residents of the fire threat and to evacuate communities in the fire's path.

Although the County's information technology systems were at risk given the proximity of the fire to the County campus, no systems were destroyed. However, the fire challenged a number of our information technology systems. For example, the County's call center and telephone system were inundated with calls far exceeding normal levels. The public-facing websites were overwhelmed by high traffic loads. Geographical mapping systems were unable to process increased network demands.

County roads, and associated signage and traffic signaling, in and around the burn areas were severely damaged, and power and water systems were incapacitated after the floods and fires.

The command center at Animal Services lacked alternate power, and radio malfunction impacted communications and operations during the fires. Response for animal services was hindered by the lack of formal emergency response plans and trained responders. In addition, Animal Services was not in direct communications with the EOC during the fires.

## BACKGROUND

**Post-Fire Response.** By October 20, 2017, the fires were mostly contained and the County began transitioning from response efforts to the recovery phase. Some recovery operations were transitioned to non-governmental organizations and specialized task forces. The County then began an “after action review” focused on Emergency Operations Center processes and procedures.<sup>2</sup> The County also requested that the California Governor’s Office of Emergency Services (Cal OES) review the emergency notification process and response.<sup>3</sup> On February 27, 2018, the Board of Supervisors held a Recovery Workshop on Infrastructure covering emergency alert systems, fire safety, preparing for a more resilient county, fire impacts on infrastructure, and public information and warning.<sup>4</sup>

Within 12 days of the start of the fires, 91 miles (of 116) County roads were re-opened, slopes were stabilized to prevent slides and erosion, and fire-damaged road signs and traffic signal infrastructure were replaced to restore services and access to County roads. Fire-damaged trees along approximately 90 miles of public roads were evaluated and assessed, and those identified as “extreme” or “high” risk in the public right-of-way are being removed. Despite the re-direction of resources to focus on repairing flood-damaged infrastructure, the Sonoma County Transportation & Public Works Department successfully caught up with the pavement preservation projects in 2018.

The County established a multi-departmental Disaster Finance Team to lead the County’s FEMA Public Assistance program, which seeks reimbursement for response and recovery costs associated with the fire. The Disaster Finance Team works with FEMA and Cal OES to maximize these reimbursements and comply with federal funding requirements. The County also established a Grant Steering Committee to coordinate County-wide pursuits of external funding for recovery and resiliency goals.

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<sup>2</sup> Sonoma County Fire & Emergency Services EOC After-Action Report, June 11, 2018.

<sup>3</sup> California Governor’s Office of Emergency Services, “Public Alert and Warning Program Assessment for Sonoma County,” February 26, 2018.

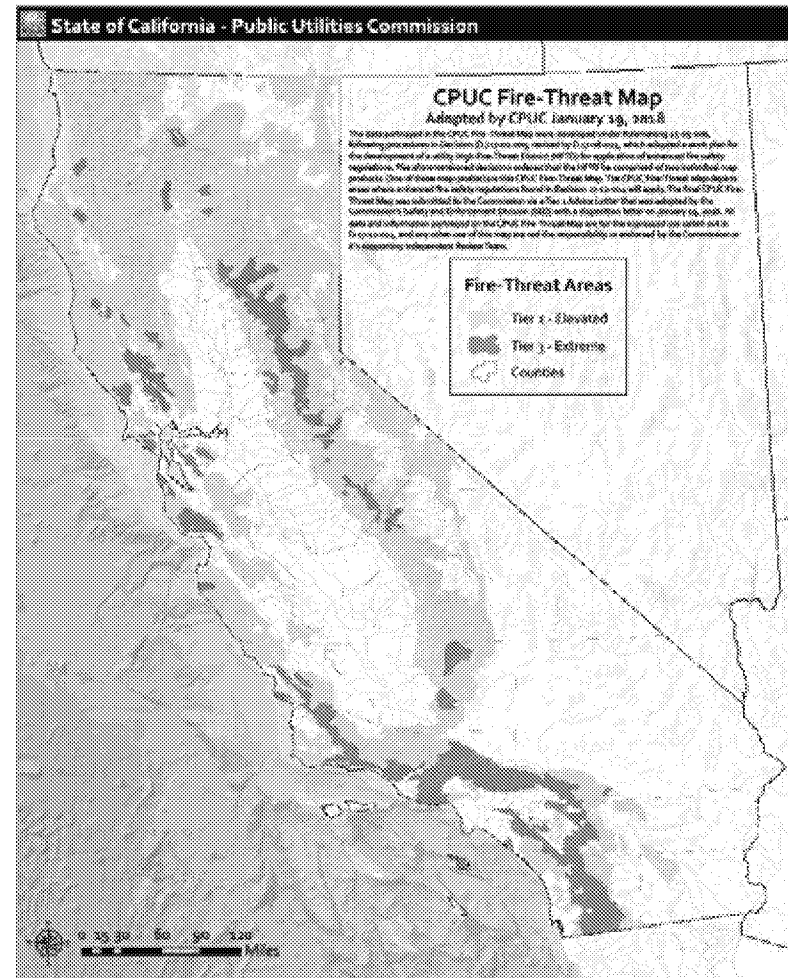
<sup>4</sup> Board of Supervisors’ meeting, February 27, 2018, item 22. Item materials found at: [www.sonoma-county.granicus.com/GeneratedAgendaViewer.php?view\\_id=2&clip\\_id=771](http://www.sonoma-county.granicus.com/GeneratedAgendaViewer.php?view_id=2&clip_id=771)

## BACKGROUND

Following the fire, Animal Services, the Fairgrounds, and non-governmental agencies have begun to develop formal protocols for animal disaster response, including alternate animal evacuation sites.

In January 2018, the California Public Utilities Commission approved a fire map (right), which identifies much of Northern California at an elevated risk of fire danger.<sup>5</sup> The map is the most current published assessment of fire risk in the State. Sonoma County saw a significant increase in the areas designated as high fire risk. Actions taken by the Commission include requiring utilities to implement new wildlife safety regulations.

### CPUC Fire-Threat Map



<sup>5</sup> California Public Utilities Commission, adoption January 19, 2018, CPUC Fire-Threat Map found at <http://cpuc.ca.gov/general.aspx?id=6442454972>

## CHALLENGES & OPPORTUNITIES

The proposed actions for this strategic area focus on opportunities to strengthen disaster preparedness, prevention, and recovery. These include improving public education, enhancing situational awareness, updating County emergency management and recovery finance policies, processes and procedures, securing County information technology, and maintaining roadways for better evacuation and first responder access.

As a result of the devastating fires, individuals, organizations, and communities have come together and strengthened their resolve to make Sonoma County more prepared. Relationships have been forged that create a deep sense of connection and community. Statistics have shown that the leading indicator for communities recovering quickly from a disaster is how cohesive a neighborhood is, and the degree to which neighbors know neighbors. As the County works to facilitate individual and neighborhood preparedness, the commitment that Sonoma County residents have to each other will prove invaluable. The collaboration among individuals, community groups, nonprofits, and governmental agencies will break down silos and further the goal of prepared communities.

Public alert and warning has become a topic of urgent interest and action among emergency management programs and associations across the country. Public expectations for local government alert and warning services have escalated significantly beyond current industry practices. The County has the opportunity to move forward and serve as a state and national leader in the ongoing conversation regarding alert and warning programs. By developing a truly comprehensive, integrated, and sustainable Community Alert & Warning Program, the County can meet the increasing expectations and challenges of this vital public safety mission for its residents, communities, and visitors.



## CHALLENGES & OPPORTUNITIES

Several jurisdictions in Sonoma County have developed forms of community notification and warning systems. The potential benefits for consolidating these efforts are significant. Consolidation into one program (or system of systems) would increase responsiveness, reduce operational redundancy, improve adherence to standards, and generate cost savings in procurement

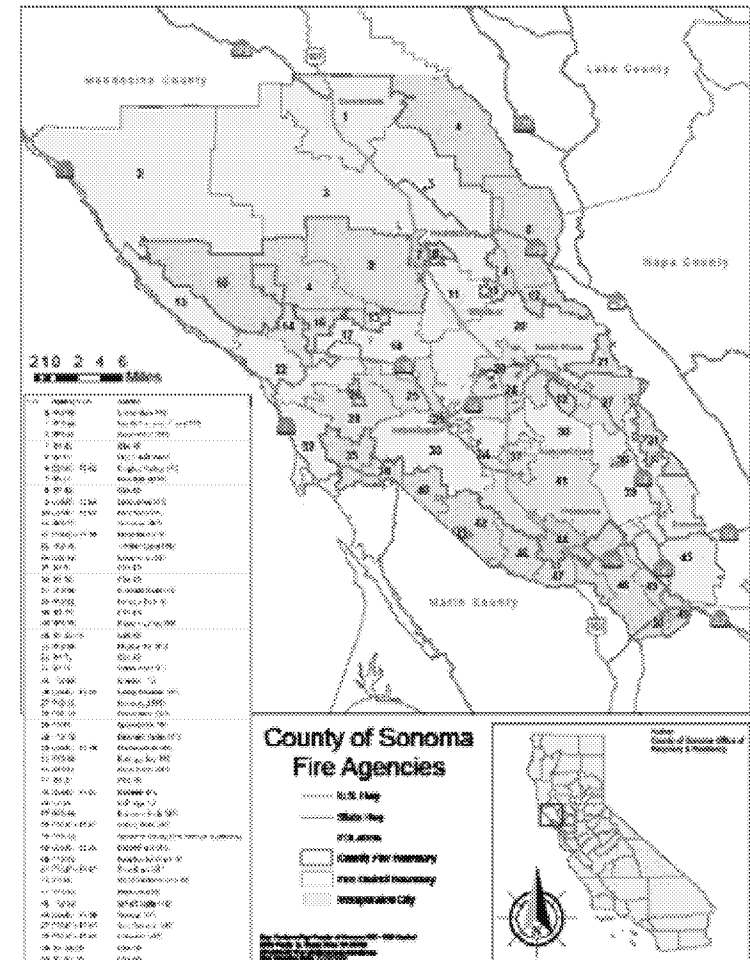


Source: [PewInternet.com/2009/Reports/18-Social-Isolation-and-New-Technology](http://PewInternet.com/2009/Reports/18-Social-Isolation-and-New-Technology)

and administration. The County currently uses CodeRed as its warning software. A more capable and more readily usable software platform would enable faster and more effective delivery of emergency warnings to the public as well as allow for integration of social media systems.

On June 14, 2018, the Board of Supervisors approved additional funding and staffing for emergency management and community preparedness. This will support enhanced resiliency measures including community preparedness programs like community emergency response teams (CERTs), auxiliary communications services, and neighborhood and individual preparedness programs. Additional funding will also support planning and training exercises, and reinforce capacities to coordinate emergency public warning, incident response and recovery. The October 2017 fires gave urgency to the countywide Fire Service Project, creating opportunities for quicker action, but also challenges for increased funding.<sup>6</sup> The fires gave urgency to the countywide Fire Services Project, creating opportunities for more efficiencies, but also challenges for increased funding. The map here (right) shows the many fire districts that exist in Sonoma County.

## Sonoma County Fire Districts



6 In 2016, the Board of Supervisors established a Fire Services Advisory Council to address fire services in the County, particularly in unincorporated areas, for a more efficient, effective and sustainable fire services system. On August 14, 2018, the Board received a report and recommendations, abolished the Fire Services Advisory Council, moved to implement phases of the recommended plan, and directed staff to pursue funding opportunities to support the plan.

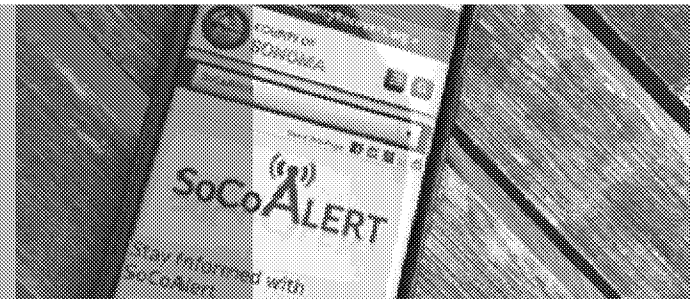
## ▲ COMMUNITY INPUT

Community members overwhelmingly agreed with the goals and objectives identified in the draft Framework. Warnings, communication, evacuation, vegetation management, education, and preparedness generated the most comments. Many requested that the County coordinate and work closely with all cities within the County on an alert system and preparedness program. Actions that have been incorporated into the Framework include evacuation and care of large animals in a disaster, hosting an annual Disaster Preparedness Day, and incorporating personal preparedness into the community preparedness program. Many in the community requested objective, measurable metrics be incorporated into any plans that are developed and for status reports to be provided to the Board of Supervisors on a regular basis.

Other jurisdictions within the County expressed a strong desire for greater collaboration on an alert and warning system and training exercises. Joint training exercises could include City-County drills and “all cities” exercises, and possible cross-training for Emergency Operations Center assistance. There were requests for assistance with establishing evacuation routes, a more comprehensive vegetation management program, and advocacy to Cal Fire and CalTrans to increase vegetation management on their properties.

“We need something that reaches and wakes everyone.  
And regular emergency evacuation practice drills...  
with special preparations for vulnerable populations.”

— COMMUNITY MEMBER





## STRATEGY AREA 1

### Community Preparedness & Infrastructure

# GOALS

1. Establish a first-class, comprehensive warning program with innovative technology and state-of-the-art situational awareness.
2. Meet future challenges by redesigning the County Emergency Management Program, providing additional resources, enhancing external funding capabilities, and recommitting to the County's public safety missions.
3. Lead, support, and train community liaisons to build and sustain individual and neighborhood preparedness, to include individuals with disabilities and others with access and functional needs, and individuals with limited English proficiency or non-English speaking.
4. Make County government more adaptable to provide continued services in disasters through comprehensive planning, a more empowered workforce, and improved facilities and technology.

## ACTIONS & TIMELINES

### Community Preparedness & Infrastructure

# GOAL C1

## GOAL C1

Establish a first-class, comprehensive warning program with innovative technology and state-of-the-art situational awareness.

PROPOSED ACTIONS:	0-1 YEAR THROUGH 2019	2-3 YEARS 2020-2021	3+ YEARS 2022+
Develop a warning system that communicates alerts over many communication systems and to individuals with disabilities and others with access and functional needs, including individuals with limited English proficiency or non-English speaking. Conduct trainings and tests of the system.			
Establish an online portal that consolidates critical first responders' and community partner information that is accessible to all emergency responders ("Common Operating Picture").			
Develop protocols and partnerships for communicating critical information to elected officials, government and community leaders, and the public during a disaster so they are fully informed, to include individuals with disabilities and others with access and functional needs, including individuals with limited English proficiency or non-English speaking.			

## ACTIONS & TIMELINES

### Community Preparedness & Infrastructure

# GOAL C1

## GOAL C1

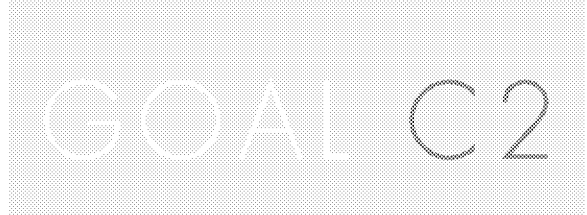
Establish a first-class, comprehensive warning program with innovative technology and state-of-the-art situational awareness.

### ACTIONS COMPLETED:

- ✓ Completed After Action Report summarizing the Emergency Operations Center (EOC) strengths and challenges during the response phase and initial recovery from the fires, which documents and recommends actions needed to strengthen EOC capabilities and resources.
- ✓ Approved \$2.5 million to Fire & Emergency Services Department to support the development and implementation of an enhanced Community Alert & Warning Program, Community Preparedness Program, and Emergency Management Program.
- ✓ Applied for funds through the Hazard Mitigation Grant Program to create a fire early warning camera system by installing fire monitoring cameras at strategic locations throughout the County with associated microwave/tower systems.
- ✓ Sonoma County Water Agency partnered with the University of Nevada, Reno and UC San Diego to install eight fire cameras in Sonoma County in 2018.
- ✓ Applied for funds through the Hazard Mitigation Grant Program to design and install warning sirens in selected locations in the County, and to develop operating, testing and maintenance procedures.
- ✓ Trained County staff in new Integrated Public Alert Warning System.
- ✓ Created 90 character limit Wireless Emergency Alert (WEA) message templates to assist in getting alerts issued faster.
- ✓ Revised policy regarding the use of WEA in life-safety hazard incidents.
- ✓ Created and recorded evacuation messages using SoCoAlert templates for probable community instructions in an emergency.
- ✓ Conducted Alert and Warning System tests on September 10 and 12, 2018.

## ACTIONS & TIMELINES

### Community Preparedness & Infrastructure



## GOAL C2

Meet future challenges by redesigning the County Emergency Management Program, providing additional resources, enhancing external funding capabilities, and recommitting to the County's public safety missions.

PROPOSED ACTIONS:	0-1 YEAR THROUGH 2019	2-3 YEARS 2020-2021	3+ YEARS 2022+
Assess and update overall County emergency procedures, programs, organization, authorities, infrastructure, staffing, equipping, and processes to determine structural changes that would best fit the capacity and needs of the County in a future disaster.			
Assess and review administrative and functional placement of the Emergency Management Program to inform any recommended changes to the County Emergency Operations Center and/or the County Emergency Management Operations.			
Expand trainings and drills for countywide emergency managers, mutual aid partners, elected officials, and County staff.			
Increase the County's capacity and capabilities to pursue and support available grants and external funding opportunities related to disaster recovery, emergency preparedness, hazard mitigation, resiliency, and homeland security.			
Facilitate the review and potential reorganization of the Sonoma County Operational Area Emergency Council.			

## ACTIONS & TIMELINES

### Community Preparedness & Infrastructure

# GOAL C2

## GOAL C2

Meet future challenges by redesigning the County Emergency Management Program, providing additional resources, enhancing external funding capabilities, and recommitting to the County's public safety missions.

### ACTIONS COMPLETED:

- ✓ Approved structure and staffing for County's Emergency Management Program and emergency preparedness.<sup>7</sup>
- ✓ Formed a Grants Steering Committee to review all external funding opportunities and coordinated the submission of 22 FEMA Hazard Mitigation Grant Program (HMGP) applications, for a total amount of over \$40 million. Through the work of the new committee, the County has designed projects to address identified strategic priorities, and enhanced collaboration across departments and externally.
- ✓ Formed a Disaster Finance Team to maximize federal reimbursements for response and recovery operations through the FEMA Public Assistance program.
- ✓ The Emergency Council developed a committee to conduct an initial assessment of its mission, explore best practices, and provide recommendations to the full Council at its December 2018 meeting.

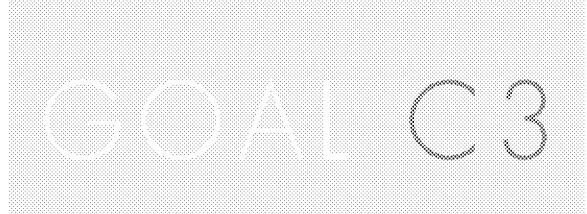
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<sup>7</sup> See August 14, 2018 Board of Supervisors meeting, Item No. 44.



## ACTIONS & TIMELINES

### Community Preparedness & Infrastructure



## GOAL C3

Lead, support, and train community liaisons to build and sustain individual and neighborhood preparedness, to include individuals with disabilities and others with access and functional needs, and individuals with limited English proficiency or non-English speaking.

PROPOSED ACTIONS:	0-1 YEAR THROUGH 2019	2-3 YEARS 2020-2021	3+ YEARS 2022+
Collaborate with volunteer, nonprofit and private organizations to establish community working groups to serve as community and neighborhood liaisons.			
Work with community/neighborhood liaisons to identify hazards, risks, mitigation strategies, including evacuation routes.			
Develop a Community Response Team Program.			
Update the County fire ordinance to enhance the Vegetation Management Program with incentives, inspection and abatement protocols, and appropriate funding.			
Develop disaster preparedness protocols for pets and livestock safety.			

## ACTIONS & TIMELINES

### Community Preparedness & Infrastructure

# GOAL C3

## GOAL C3

Lead, support, and train community liaisons to build and sustain individual and neighborhood preparedness, to include individuals with disabilities and others with access and functional needs, and individuals with limited English proficiency or non-English speaking.

### ACTIONS COMPLETED:

- ✓ Provided chipper services, prioritized for those in burn areas, and to address access routes and defensible space.
- ✓ Created three additional positions, two dedicated to the County's emergency management program and one dedicated to community preparedness.
- ✓ Allocated \$500,000 to enhance the County's vegetation management program.

## ACTIONS & TIMELINES

### Community Preparedness & Infrastructure

# GOAL C4

## GOAL C4

Make County government more adaptable to provide continued services in disasters through comprehensive planning, a more empowered workforce, and improved facilities and technology.

PROPOSED ACTIONS:	0-1 YEAR THROUGH 2019	2-3 YEARS 2020-2021	3+ YEARS 2022+
Identify essential infrastructure, services and resources necessary during a disaster and, to the extent possible, have contracts and/or Memorandum of Understandings in place.			
Pre-stage critical equipment (i.e. shelter materials, roads equipment, etc.) at strategic, designated sites throughout the County.			
Update the County's Continuity of Operations Plan (COOP) assuming that the County will need to function effectively and independently without state or federal resources for at least 72 hours.			
Protect County information, data, and communication infrastructure.			
Work with federal, state, local, tribal, community and/or private partners to identify, assess, and modify or repair essential transportation infrastructure for critical County response.			
Work with private utility providers to identify solutions to harden infrastructure and cope with destroyed utilities in a disaster.			